United States Department of the Interior

BUREAU OF LAND MANAGEMENT
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June 30, 2015

In Reply Refer To:
4100 (AZC010)

Mr. Charles W. (Bill) Hamilton
c/o HC 37
7690 West Quail Springs Road
Dolan Springs, AZ 86441

Laura Pendley
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Dolan Springs, AZ 86441

NOTICE OF PROPOSED DECISION
For
Cerbat, Quail Springs, and Fort MacEwen
Proposed Grazing Management Plan and Permit Renewal
Environmental Assessment
DOI-BLM-AZ-C010-2015-0029-EA

Dear Mr. Hamilton & Laura Pendley:

A. INTRODUCTION

The Cerbat, Quail Springs, and Fort MacEwen (CQFM) Proposed Grazing Management Plan and Permit Renewal Environmental Assessment (EA) provided a "hard look" analysis in that:

1) The analysis integrated environmental, and socioeconomic objectives along with consideration of federal, state, and other existing authorities,

2) Impacts from the past to the present and over the next ten years, or the life of the permit, were considered. Specific considerations were evaluated for plants and animals within the CQFM Allotments that require additional protection and for cumulative effects from other actions,

3) Scoping occurred throughout the process, beginning before the development of this EA, up through the current time to include the BLM interdisciplinary team, the BLM Arizona Resource Advisory Council (RAC), the Mohave Livestock Association (MLA), Arizona Game and Fish Department (AZGFD), Arizona Cattle Growers, Natural Resource Conservation Service (NRCS), local ranchers, the permittee, Western Watersheds

The revision was completed as part of BLM's commitment to involve the public (including the permittee, other agencies, the RAC, etc.) through additional scoping to insure that comments were adequately addressed and resolved.

C. PROPOSED DECISION

In accordance with 43 Code of Federal Regulations (CFR) 4130.3, 4130.3-2, and 4130.3-3 and based on the 2010 Rangeland Health Evaluation, analysis in the 2015 CQFM EA, and with consideration of public comments, it is my Proposed Decision to modify the terms and conditions of the Cerbat (#0202019), Quail Springs (#0202065), and Fort MacEwen (#0202035) permits with the following elements:

1. Mandatory Terms and Conditions

Livestock management will be conducted in accordance with the following Terms and Conditions:

Number of Livestock: The total number of livestock permitted under the Cerbat Black Grazing Environmental Impact Statement (EIS) and the Kingman Resource Area Management Plan and EIS for the CQFM Allotments is 578 Animal Units (AUs). The total number of active AUs is 458 using the Desired Stocking Rate Formula. Calculations for the stocking rate analysis are available at the Kingman Field Office (KFO). After applying a rotation and as a result of pasture production differences, there are three AUs less. Consequently the initial stocking rate would be 455 AUs.

The difference between 578 AUs and 455 AUs (123 AUs) would be placed in conservation use and would remain such until monitoring indicates otherwise.

Table 1. Number and kind of livestock, and Animal Unit Months (AUM's) by Allotment.

CERBAT	Livestock Livestock Kind		Period of Use	% Public Use	Type Use	Use in AUMs
From	175	Cattle	03/01 to 02/28	93%	Active	1,953
To	91	Cattle	03/01 to 02/28	93%	Active	1,015

QUAIL SPRINGS	Livestock Livestock Kind		Period of Use	% Public Use	Type Use	Use in AUMs
From	242	Cattle	03/01 to 02/28	90%	Active	2,614
To	215	Cattle	03/01 to 02/28	90%	Active	2,322
From	19	Cattle	03/01 to 02/28	90%	Active	205
To	15	Horses*	03/01 to 02/28	90%	Active	205

Adaptive management [is a decision process that] promotes flexible decision making that can be adjusted in the face of uncertainties as outcomes from management actions and other events become better understood. Careful monitoring of these outcomes both advances scientific understanding and helps adjust policies or operations as part of an iterative learning process. Adaptive management also recognizes the importance of natural variability in contributing to ecological resilience and productivity. It is not a 'trial and error' process, but rather emphasizes learning while doing. Adaptive management does not represent an end in itself, but rather a means to more effective decisions and enhanced benefits. Its true measure is in how well it helps meet environmental, social, and economic goals, increases scientific knowledge, and reduces tensions among stakeholders.

Effective monitoring is essential to adaptive management. It provides the data with which to assess resource conditions, determine if objectives are being met, and periodically refine and update desired conditions and management strategies. If monitoring indicates that desired conditions are not being achieved and livestock grazing practices are causing non-attainment of resource objectives, livestock grazing management on the allotment will be modified in consultation with the permittee. Knowing that uncertainties exist in managing for sustainable ecosystems, changes to the rotation schedule may be authorized for reasons such as, but not limited to:

- Adjust the rotation/timing of grazing based on previous year's monitoring and current year's climatic conditions.
- Drought causing lack of water and forage in certain areas originally scheduled to be used, and
- Changes in use periods to balance utilization levels in pastures.

Flexibility is authorized and changes in rotations will continue to meet resource objectives. Flexibility is dependent upon the demonstrated stewardship and cooperation of the permittee. Rangeland monitoring is a key component of adaptive management. When monitoring indicates changes in grazing management are needed to achieve resource objectives, they will be implemented by working with the permittee.

Triggers

Triggers are used in the CQFM AAMP to identify the threshold of attributes (utilization levels, cover, frequency, composition of species, etc.) being measured. When thresholds are approached, management responses can be taken to avoid the thresholds being met or exceeded (see soft triggers; Table 8 from the CQFM EA, provided at end of document). If thresholds are met or exceeded, specific actions would be necessary to avoid not meeting the standards of rangeland health (see hard triggers; Table 8 from the CQFM EA, provided at end of document). The purpose of monitoring for triggers is to accomplish the goals/objectives of the CQFM EA, as referenced below:

Allotments, the partnership [1] will assess local conditions and outlooks and determine what management adjustments are needed, such as pasture deferment, rest, livestock rotation, change in numbers, etc. Although drought identification will be based on the Drought Monitor, the actual management actions would be based on Table 9 (provided below).

The Society for Range Management has defined drought as receiving 75% or less precipitation than the long-term average (SRM 1989). For the purposes of an adaptive management response the following general guidance will be used:

Normal: 75–125% of long-term average.

Above normal: Greater than 125% of long-term average.

Abnormally dry to moderate drought): **Less than 75%** of long-term average.

Severe to exceptional drought): **Less than 65%** of long-term average, soil moisture approaching 0%, prediction of drought to continue or become more severe.

Grazing Schedule

The grazing schedules shown in the CQFM EA on Tables 5 and 6 and attached at the end of this document show pasture deferment and rotation scheduling. The schedules are subject to change year to year, based on climatic conditions, physiological needs of the plants, site specific monitoring data, and range improvements.

The allotments will be managed as two units, one east and one west of U.S. Highway 93. The names of the pastures in the East and West Management Units are listed in Table 4 (and provided at the end of this document), and the locations are shown in Figure 3: Map 2 of the EA (and provided at the end of this document). Livestock management under the AAMP provides grazing deferment in spring and summer growing seasons; see Tables 5 and 6 (provided at the end of this document).

West Management Unit

The West Management Unit is made up of five pastures as follows: Twin Mills, Lost Cabin/Squaw Pocket, Black Tank/Valley, Sugarloaf, and Highway 93. Cattle are planned to be moved twice a year in accordance with Table 5 (provided at the end of this document).

Ephemeral Authorization

Ephemeral grazing will be authorized over the term of the permit providing that monitoring indicates progress is being made toward meeting Rangeland Health Standards and in accordance with applicable laws, regulations, and other guidance, i.e., Instruction

[1] Partners for collaborative monitoring partnership would include, but are not limited to: BLM (Responsible Authority; 40 CFR 1506.5(b) and (c)), Livestock Permittee, AZ Game and Fish Department, Mohave Livestock Association, Arizona Cattle Growers Association, Arizona State Land Department, Natural Resource Conservation District, Natural Resource Conservation Service, University of Arizona, US Fish and Wildlife Service, Non-Governmental Organizations, and/or Interested public.

5. Reconstruct the fence between House and Cerbat pastures. This fence would be realigned from private uncontrolled land to land owned by the permittee in T23N, R18W, Section 9.
6. Repair the fence between the Sugarloaf and Highway 93 pastures.
7. Repair the fence along the south and southeast portion of the Highway 93 Pasture.
8. Remove portions of the fence between Black Tank and Valley pastures to create one pasture.

Standard Operating Procedures (fences)

a. When fences are realigned, extended, or reconstructed they will be built and then maintained using BLM fencing standards (1989 BLM Fencing Manual H-1741-1). Standards will differ depending on the big game species present (bighorn sheep or mule deer).
b. Maintenance or reconstruction of fences in tortoise habitat will be conducted from existing roads or on foot or horseback where road access is not available.

Cattleguards

Thirteen cattleguards are approved for installation at sites shown in the CQFM EA on Figure 5: Map 4 for the West Management Unit and Figure 6: Map 5 for the East Management Unit. Both figures are provided at the end of this document.

Standard Operating Procedures (cattleguards)

All new cattleguards will be constructed and designed to prevent entrapment of small animals including desert tortoise.

Water Facilities (wells, storage tanks, troughs, and pipelines)

The AAMP can be implemented with or without the development of any one of eight well proposed in the 2015 CQWFM EA. W4 is located on State Trust Land where BLM has no decision authority. E1 would not be developed due to resource concerns (SHPO requirements). The remaining six new wells could be developed on public land (E2, E3, E4, W1, W2, and W3) as shown within Figure 5: Map 4 and Figure 6: Map 5 (provided at the end of this document). The wells would be equipped with a windmill; solar, or other appropriate energy source; 10,000 gallon storage tank; and a 500 gallon trough for livestock, wildlife, wild horses and burros (areas in the Herd Management Area or Herd Area). Until the new wells are developed, the permittee may haul water to the locations of the proposed new wells.

Reconstruct approximately 4.5 miles of the Wooten pipeline starting in T23N, R18W, Section 05. Water to this pipeline will be provided by Wooten Well which has been repaired and is operational. The pipeline will follow the existing pipeline alignment in a west-southwesterly direction crossing under US-93 in T23N, R18W, Section 18 and end at a trough in the Hwy 93 Pasture in T23N, R19W, Section 24 (Figure 4: Map 3 provided at the end of this document). The permittee will be responsible for obtaining

constructed and/or maintained at locations shown on Figure 5: Map 4 (provided at the end of this document) at:

1. near Key Area 5 in the Black Tank Pasture;
2. near Key Area 12 in the Squaw Pocket Pasture;
3. near Key Area 6 in the Sugarloaf Pasture;
4. near Key Area 17 in the Highway 93 Pasture (existing exclosure);
5. near Key Area 18 in the Twin Mills Pasture; and
6. near Key Area 20 in the Twin Mills Pasture.

Riparian Exclosures

The existing exclosure around Big Wash Spring (T24N, R18W, Section 17) will be reconstructed (shown on Figure 4: Map 3 provided at the end of this document). The BLM will build and maintain the exclosure fence following BLM fencing standards (1989 BLM Fencing Manual H-1741-1).

3. Communication

Responsible Party	Topic/Description
Permittee	Planned Moves/Livestock:

Will contact the BLM Kingman Field Office prior to starting of scheduled livestock moves, to inform BLM of the number of authorized livestock to be located on public land. This will strengthen accountability and improve communication while promoting the orderly administration of livestock grazing on the public lands.

Unplanned Moves/Livestock:

Will contact the BLM to get authorization prior to making any livestock moves outside of the planned grazing schedule. The only exception will be in an emergency situation (i.e., imminent death of livestock, e.g., water structure is broken and livestock need to be moved immediately). In this case, the permittee still needs to contact BLM as soon as the situation has been resolved (within 48 hours). This will allow BLM to keep a record of any unplanned moves and promote good communication between all parties.

Actual-Use Records:

Will keep actual use records of all livestock activities (planned or unplanned) for all allotments/pastures during the grazing year. This written record will be made available to the BLM and all other stakeholders throughout the year.

5. Other Term & Conditions

In accordance with 43 CFR 4130.3-2 (d) actual-use information for each use area will be submitted to the Authorized Officer within 15 days of completing grazing use as specified on the grazing permit and or grazing billings. Under the AAMP livestock management will be evaluated though monitoring data and needed changes would be made including a possible adjustment of cattle numbers and possible rest in any pasture during the grazing year. Therefore, the permittee will provide actual-use by pasture, including number of animals, kind and class of livestock, and period of use throughout the grazing year in writing following any livestock moves.

D. PUBLIC COMMENTS AND RESPONSES

In 2010, a Draft Rangeland Health Evaluation was sent out for public review and comment to individuals, organizations, and agencies. Comments were received from the grazing permittee, MLA, AZGFD, and Western Watersheds Project. Comments were reviewed by an interdisciplinary team and incorporated into the final evaluation report where appropriate.

A preliminary EA titled The *Cerbat, Quail Springs, and Fort MacEwen Allotments Grazing Permit Renewal* numbered DOI-BLM-AZ-C010-2011-0017-EA was posted for public review on May 1, 2013 for a 24-day comment period ending on May 24, 2013. The KFO received nine public comment letters, including those from the permittee, members of the ranching community, the Mohave Livestock Association, AZGFD, and Western Watersheds Project. Comments from the ranching community supported the No Action Alternative from the 2013 CQFM EA, which did not reduce the permitted use and followed the 1980 Allotment Management Plan (AMP) which recommended the Best Pasture Method Grazing System, originally outlined in the Jornada Experimental Range Report #1 (Herbel and Nelson 1969). AZGFD supported the original Proposed Action from the 2013 CQFM EA, but added that a contingency plan was needed to account for vegetation to recover after destructive natural events such as drought and wildfire. Western Watersheds Project specifically commented on the alternatives in the 2013 CQFM EA, the stocking rate, and supported the No Grazing Alternative based on their analysis of data from the land health evaluation.

As a result of these comments and discussions between the ranching community and BLM managers, the Colorado River District Manager approached the State Director and the Resource Advisory Council (RAC) about forming a subcommittee to evaluate the 2013 CQFM EA and requested that further recommendations be provided.

Through the RAC a subcommittee was formed in November 2013. The RAC Subcommittee chose to develop a new Adaptive Management Alternative, developed adaptive management scenarios, thresholds, and subsequent management actions for the CQFM Allotments.

A subsequent EA was developed, titled *Cerbat, Quail Springs, and Fort MacEwen Allotments Proposed Grazing Permit Renewal* numbered DOI-BLM-AZ-C010-2014-0036-EA (2014 CQFM EA, July 2014) and was posted for public review on July 3, 2014 for a 15-day comment period

LETTER #	THEME	COMMENT	PROPOSED RESPONSE
5 8 9	Administrative	Remove statement that 1980 AMP was not followed.	The EA has been updated to state that Rangeland Health Standards are not being met at some key areas while livestock operations have been managed under the 1980 AMP.
3 and 10	Administrative	add MLA and ACG	This request was implemented. See Section 2.1.6.2 Collaborative Monitoring
6	Adaptive Management	Adaptive Mgmt - What consequences will there be to either the BLM or the permittee if these plans are not followed? We suggest that the EA stipulate that a failure to follow the plan and see empirical improvement in resource conditions will trigger immediate reductions in stocking levels. Triggers - Consequences of breaching triggers is overly vague. Merely having discussions is too slow and incremental, especially since 50% utilization limit on areas outside the Joint Use Area already exceed sustainable utilization according to most range scientists.	The Adaptive Management Plan identifies a number of triggers and a range of specific management actions that would be implemented as a result of nearing and/or reaching those triggers, including adjusting stocking levels. Triggers and specific management actions have been modified, see Table 8, provided at the end of this document.
6	Adaptive Management	Monitoring component of adaptive management on page 109. EA cites meeting Standard 3 as example of a monitoring objective. Standards and guidelines are too subjective to be really useful for this. Monitoring must include objective, empirical criteria that are readily observable and understandable by all stakeholders.	Desired Plant Community (DPC) objectives are identified in Appendix B of the EA, and in the Rangeland Health Evaluation (USDI BLM 2010). BLM monitoring includes total live perennial cover which includes canopy and basal cover. Monitoring is intended to meeting specific DPC objectives; therefore, evaluation of Standard 3 is based on results of monitoring data.
10	Burros	7.3.6 and 7.3.6.3 Under Utilization and Trend Adaptive Management Response, the burden of meeting utilization objectives is placed on the permittee as if other factors did not exist. The other factor is the burro population.	Section 1.1 of the 2015 CQFM EA acknowledges that several factors are responsible for Rangeland Health Standards (USDI BLM 1997) not being met at some key areas within the CQFM allotments, which include the combination of livestock grazing management, drought, wildfire, and burro management. Burro numbers and gathers are beyond the scope of the CQFM EA. BLM is in the initial stages of preparing an EA for the Black Mountain Herd Management Area (BMHMA) which will address the current burro population, Appropriate Management Level, and any excess burros. A population estimate completed in 2014 with the U.S. Geological Survey indicates a population of 1,600 animals within the BMHMA. The CQFM EA has been updated to include the current population estimate (see *section 3.3.13 Wild Horses and Burros*).
8 8 9 11 5 13 14	Burros	Address nuisance burros on allotment. Bill requested census results from May 2014 and AML of burros for the CQFM area. EA did not discuss how BLM intends to manage burros in West Management Units. They are an extra expense to the rancher and destructive to rangeland improvements.	Burro gathers are beyond the scope of the CQFM EA. BLM is in the initial stages of preparing an EA for the Black Mountain Herd Management Area (BMHMA) which will address the current population, Appropriate Management Level, and any excess burros. A population estimate completed in 2014 with the U.S. Geological Survey indicates a population of 1,600 animals within the BMHMA. The CQFM EA has been updated to include the current population estimate (see *section 3.3.13 Wild Horses and Burros*).

Letter #	Theme	Comment	Proposed Response
3	General	Oppose Alt 2. Not shown justification to cut the cattle numbers.	Lowering the stocking rate under Alternative 2 was based 1) on not meeting Rangeland Health Standards at some of the key areas in some of the Allotments, 2) drought conditions predicted for the future, and 3) peer reviewed literature from sources considered credible by some BLM specialists.
6	Other	Greenhouse gases. EA should provide an analysis of methane production on BLM lands from livestock grazing and compare to # cattle on these allotments.	The EA has been updated to reflect the amount of methane contribution of CQFM compared to total methane emissions by livestock on BLM lands (see *Table 15. Elements/Resources of the Human Environment*). The proposed alternatives will not substantially contribute to greenhouse gas emissions; therefore, methane production from livestock grazing is not analyzed in the EA.
3 9 11 13 14	Other	With regard to permittee hauling water, last sentence under water facilities, the word "would" needs to be changed to "may."	Changes have been made to the EA per recommendation of commenters.
6	Grazing Management	Utilization Limits: EA mentions utilization limits in desert ecosystems should be between 20-35%. EA then proposes utilization limits at 50%. Page 57 states proposed utilization triggers are higher than is recommended for maintenance or improvement of desert grasslands…	The analysis in the EA has been updated to reflect that utilization measurements are relative or seasonal use and not total use for most pastures most of the time. It is assumed that when livestock are removed from a pasture, plants in most years would regrow and total use would approach use limits recommended in the literature. The EA has been updated in sections *4.2.2.10 Alternative 1, Adaptive Management Proposed Alternative, Vegetation* and in section *4.2.2.5 Alternative 2 Reduced Permitted Use Alternative, Long-Term Impacts (2-10 Years), Livestock Grazing Management*.
6	Grazing Management	Actual Use. When did ephemeral use occur on Fort MacEwen allotment? This would be helpful to understand productivity of the allotment and how proposed pasture rotation aligns with historic additional AUMs. What parameters under which ephemeral use is authorized? How does BLM determine what level of production is met? Ephemeral use is a cumulative effect that should be considered in the EA.	The Rangeland Health Evaluation (USDI BLM 2010, pg. 25; see "Eph" notations) shows ephemeral use by year and by allotment. Ephemeral use is authorized under the Federal Grazing Regulations and under Instruction Memorandum No. AZ-94-018, Ephemeral Grazing Authorizations. Livestock grazing which includes ephemeral grazing is analyzed throughout the document where appropriate.
9 14	Grazing Management	Sec 7.3.3.1 Object to rotating horses in Proposed Action– need horses next to corrals for cowboys to catch their mounts for the day.	The proposed action provides seasonal rest for all pastures. The Quail Springs and Big Wash pastures would be available to horses depending on the rotation schedule for the pastures. Having horses present year-round would provide no rest for these pastures.

Letter #	Theme	Comment	Proposed Response
6	Grazing Management	Permitted use needs to be adjusted downward to reflect the actual capacity of the allotment. Actual use for all three allotments average 44% (2,248 AUMs) of total permitted use over a 13 year period.	Alternative 1 begins with a reduction from full preference. Under Adaptive Management numbers can be reduced if monitoring supports reductions. Alternative 2 does reflect a downward adjustment of permitted use.
3	Grazing Management	East management unit: support change at request of permittee to rotate pastures from side to side instead of up and down due to lack of water in the mountain, drier conditions.	This request was not received until after the EA and the Proposed Alternative 1, Adaptive Management, had been received by the RAC committee and . This change, as requested could be implemented in the second year of an adaptive management plan, if Alternative 1 is selected and the permittee brings the request up before the proposed partnership.
3 4	Grazing Management	Under Severe to Exceptional Drought/Grazing Management, it states to rest 1 pasture on the east side and 1 pasture on the west side through severe to exceptional drought. Contrary to suggestion of RAC subcommittee to spread cattle into all pastures to reduce impacts on vegetation during drought.	EA Alternative 1 has updated. Now states "Open all gates and spread cattle into all pastures with the exception of pastures approaching, at or exceeding their use limits (40% or 50%). Adjust numbers to be in balance with available forage." Table 9.
10 8 9 13 14	Grazing Management	The Twin Mills should be grazed year round as per the RAC subcommittee recommendation. Consider year round grazing in Twin Mills pasture. Year round grazing would more effectively control red brome than ephemeral grazing. Water hauling in Twin Mills Pasture is infeasible due to primitive roads.	The RAC Subcommittee recommended using Twin Mills fall/winter and on and off for ephemeral grazing. The EA evaluated livestock grazing and its potential to reduce fuel loading in sections *4.2.2.2 Fire/Fuels Management* The EA was updated to reflect that hauling water in the Twin Mills Pasture is difficult due to rough roads.
8 9 11 13 14	Grazing Management	Under the current conditions Sugarloaf and Hwy 93 pastures should be combined, leaving fence in place.	The RAC subcommittee agreed to keep Sugarloaf and Highway pastures separate on June 24, 2014. The fence will be left in place.
	Grazing Management	East management unit: support change at request of permittee to rotate pastures from side to side instead of up and down due to lack of water in the mountain, drier conditions.	The east/west rotation was approved by the RAC subcommittee. Through the Adaptive Management process rotation could be changed to North/South at a later date. BLM would need to evaluate the rotation and determine if this rotation would meet vegetation and seasonal rest objectives, etc.
6	Grazing Management	Suggest closing Cerbat pasture in it's entirely, given its current limited capacity for livestock grazing because of lack of water.	A well has been developed on private land in Cerbat Pasture and there is a reliable water source.
9 10 14	Grazing Management	East management unit: rotate pastures from north/south instead of east/west.	The east/west rotation was approved by the RAC subcommittee. Although through the Adaptive Management process, rotation could be changed to north/south rotation.
9 14	Grazing Management	We will NOT be forced to leave the water on for the use of anything other than our cattle or horses. However we MAY leave it on at our sole discretion for the sake of wildlife.	Water developments occurring on public land could be left on year-round (or access restricted to) as required under the Terms and Conditions of the federal grazing permit. Water developments occurring on private land are controlled at discretion of land owner.

LETTER #	THEME	COMMENT	PROPOSED RESPONSE
9 10	Infrastructure	Item 5: do not need to repair fence between House and Cerbat if rotation is changed to north/south. Fence has been cut in several places and is not repairable.	RAC Subcommittee on June 24, 2014 agreed that the fence between House and Cerbat pastures would remain in place, be repaired, and portions realigned. Alternative 1 Proposed Action Alternative has been updated to reflect this change.
5	Infrastructure	Rain gauges and moisture probes. This section states the permittee would read the existing and new gauges. What type of records would have to be kept and how often? Depending on location might be difficult after a rain, time consuming and expensive.	Permittee agreed to read rain gauges in a meeting of the RAC subcommittee. See *Table 7. Data Monitoring Protocol*. BLM would collect soil moisture data.
6	Legal	Reference to Duck Creek Office of Hearings and Appeals Decision being relevant to the analysis of the proposed action in this EA. Insufficient monitoring methodologies, needed to cover site specific wildlife habitat, needed to discuss concentrated livestock use in areas around new water troughs, needed to re-evaluate carrying capacity in light of degraded conditions, and that without accurate actual use data impacts of grazing was mere speculation.	BLM has established one or more key areas in each pasture on the CQFM allotments. Monitoring follows established and accepted methods and protocols found in BLM technical references. A variety of monitoring methods were used to evaluate whether key areas were meeting the Arizona Standards for Rangeland Health. When areas meet standards, the assumption is that the habitat needs of wildlife in these areas are being met or have the processes in place to be met (see Section *4.1.2.13 Wildlife including Special Status Species and Migratory Birds*). Discussion of the impacts as a result of more concentrated livestock use in areas surrounding proposed new water developments is found in Sections *4.1.2.10 Vegetation* and *4.1.2.13 Wildlife including Special Status Species and Migratory Birds*. Stocking rate adjustments would be made through an adaptive approach based on monitoring data in relationship to resource management objectives. The permittee is responsible for submitting actual-use data and certifying its' accuracy.
6	Vegetation	Desired Plant Community should be for all groups (forbs, grasses, shrubs, trees) not just forage species because there are other vegetative components of rangeland health that need to be considered. Biological soil crust (BSC) only mentioned cursory on page 30 which says no mapping of BSC even though they were observed "in locations away from waters where soils are meeting Standard 1". BLM is required to manage for BSC.	The DPC objectives are set on key species that show a cause and effect relationship with livestock grazing. Key species use serves as an indicator to the degree of use of other within the plant community. Key species are those that serve as indicators of change within the community since it is not feasible to establish objectives for every species within a community. The EA has been updated to reflect that biological soil crusts are rarely encountered within the allotments due to the coarse nature of soils (see section *3.1.10 Soils and 3.1.11 Biotic Soil Crusts*), and that biological soil crust cover information is collected during monitoring of Key Areas if it is found.
6	Vegetation	EA states that Quail Springs Key Area (KA) 8 is meeting Standard 3 (page 36). It is in desert tortoise habitat (Figure 16) (page 42). However, RHE page 28 states KA 8 is not meeting composition objective for shrubs. Grass composition is dominated by big galleta. Desert needlegrass should be present on this ecological site in relatively equal amounts. Disparate presence not discussed.	Desert needle grass is present at the site and is within the range of the Ecological Site Description (see *Appendix D. Rangeland Health Evaluation,* (USDI BLM 2010)).

E. Rationale

After considering public comments received through scoping and BLM's responses, it is my Proposed Decision that no additional analysis or content revisions beyond those considered in the 2015 CQFM EA *(DOI-BLM-AZ-C010-2015-0029-EA)* or the associated FONSI are needed. The BLM specialists reviewed the comments and provided responses and revisions where appropriate to the substantive comments in Public Comments Received and Responses of this document.

This Proposed Decision best meets the Purpose and Need for the Action because it:

1) provides both short-term and long-term planning in key areas not currently meeting Standards of Rangeland Health to progress toward meeting Standards by offering adaptive management options such as growing season rest on upland forage species and springs via deferment and rotational grazing;

2) allows for rangeland improvement projects to provide for improved cattle distribution and exclosures;

3) provides protection of springs and associated riparian vegetation through utilization standards;

4) provides flexibility for annual variation in environmental conditions, including drought;

5) adjusted the mandatory Terms and Conditions of the permits in order to meet the standards for rangeland health; and

6) renew three new 10-year term grazing permits for authorizations #0202019, #0202065, and #0202035 under 43 Code of Federal Regulations (CFR) 4130.

In addition, the Proposed Decision was based on consultation with the affected grazing permittee, the RAC and their subcommittee, local Mohave County Government, public commenters, and conformance with applicable laws and regulations.

43 CFR 4130.3 states that, "Livestock grazing permits and leases shall contain terms and conditions determined by the authorized officer to be appropriate to achieve the management and resource condition objectives for the public lands and other lands administered by the Bureau of Land Management, and to ensure conformance with the provisions of subpart 4180 of this part."

According to upland data collected in the Cerbat (00020), Fort MacEwen Unit A (00034) and Quail Springs (00062) Allotments Rangeland Health Evaluation (USDI BLM 2010), Arizona Standards for Rangeland Health and resource objective cited in the Kingman Resource Management Plan (1995) are not all being met and some sites are not making significant progress towards meeting applicable standards under current livestock management practices. Data collected at upland key areas indicates that grazing use by cattle in these areas is a significant factor in slowing the progress towards meeting applicable standards.

Rationale is first provided relating to changes made between the 1980 Allotment Management Plan (AMP) for Cerbat, Fort MacEwen Unit A, and Quail Springs Allotments and the Proposed Decision for the 2015 Adaptive Allotment Management Plan (AAMP) for the same allotments, which includes the following changes/questions:

1) a change to adaptive management
2) adjustments in livestock numbers
3) a change in livestock kind

4. ***Ensure for the development of proposed range improvements?***
Yes, the AAMP states that although the permittee is responsible for installing, reconstructing, and relocating range improvements, outside funding opportunities are possible and are recommended through partnerships with agencies that included: AZGFD, NRCS, and BLM. Maintaining and repairing fences along with replacing gates with cattleguards will help to ensure that livestock are confined to pastures scheduled to be grazed and that rotational grazing is followed. This will minimize conflicts associated with the public cutting fences and leaving gates open between pastures. Upgrades of water facilities that are past their useful life will increase the reliability and availability of water across the allotments. This will also reduce water emergency situations such as water hauling, costly repairs, emergency moving of livestock etc. New water developments will enhance livestock distribution across the allotments.

Upgrades and new improvements are also expected to enhance the value of the ranch for the permittee.

5. ***Enhance communication between BLM and the Permittee and/or other stakeholders?***
Yes, the AAMP calls for the permittee to keep detailed actual-use records, contact the BLM for moves within and outside of the scheduled grazing periods, and it calls for bi-annual meetings, at a minimum, between the BLM, permittee, and other stakeholders. The AAMP calls for monitoring to be conducted as a collaborative effort between the BLM, permittee, and stakeholders to document that desired conditions are being achieved.

6. ***Improve trust between the BLM and the Permittee by ensuring that the number of livestock grazing on public land is accurate?***
Yes, as part of the Terms and Conditions of the permit, the permittee is required to contact the BLM prior to rounding up and moving livestock to allow BLM the opportunity to count the number of livestock located on public land. This will also promote orderly administration of livestock grazing on the public lands.

7. ***Meet environmental objectives on public lands while allowing for an economically viable ranching operation to be maintained?***
Yes, renewing the three 10-year term permits, under the AAMP as a term and condition of the permit, will provide for attainment of environmental objectives by changing the permit to reduce livestock active use from 578 AUs to a combined total of 455 AUs is expected to help rangeland resources move more rapidly toward meeting Arizona Standards for Rangeland Health and resource objectives while allowing the permittee to continue his grazing operation on public land. Over time the improvement in rangeland health is anticipated to improve forage quality and quantity and improve livestock performance in the form of calf crop, winging weights and over all herd health. The changes in active-use will provide more forage on a multiple-use sustained yield basis and improve habitat conditions in some pastures by reducing competition between livestock, burros, and wildlife species. As more reliable water facilities are developed livestock distribution is expected to be enhanced and the stress and associated costs with older, less reliable water facilities to be reduced (i.e., mileage, maintenance and repair/purchase of parts, water hauling, etc.).

The exact number of livestock authorized to graze on an annual basis would depend on such things as resource condition of the allotment, available water, annual forage production, condition of structural facilities, and range readiness.

11. ***Ensure the allotment would be managed to achieve the Arizona Standards for Rangeland Health?***

Yes, under the AAMP monitoring provides the data with which to assess resource conditions, determine if objectives are being met, and periodically refine and update desired conditions and management strategies. If monitoring indicates that desired conditions are not being achieved and current livestock grazing practices are causing non-attainment of resource objectives, livestock grazing management on the allotment would be modified in cooperation with the permittee. The AAMP provides grazing deferment in spring and summer growing seasons. Periodic rest periods during the growing season will promote recruitment of grass, forbs, and palatable shrub species, and allow the plant species vigor to improve.

12. ***Ensure utilization criteria objectives are met?***

Yes, utilization triggers are set and periodic monitoring would be completed to assure that the utilization objectives are met. The utilization hard triggers within the Black Mountain Ecosystem Joint Use Area are set at 40% and 50% outside of the Joint Use Area.

I did not select the **Alternative #2, Reduced PermittedUse** because the continuation of current management did not:

(1) offer the same socioeconomic opportunities to the county and state, or to potential employees for the permit as Alternative 1;
(2) propose as many opportunities for water improvements which could result in improved grazing distribution throughout the allotments as Alternative 1;
(3) Alternative 1 offered more opportunities for cooperation, collaboration, and communication between the permittee, and BLM, as well as building relationships with other agencies and partners to improve understandings and grazing in the community. It also provided a grazing schedule with planning and field monitoring identifiers (i.e., triggers) to maximize results and learning as suggested by BLM in Adaptive Management.

I did not select **the No Action: Current Conditions Alternative #3** because it did not:

(1) achieve the Standards for Rangeland Health according to the Land Health Evaluation of 2010;
(2) it did not meet the resource objectives stated in the *Kingman Resource Area Proposed Resource Management Plan* (RMP)/*Final Environmental Impact Statement* (USDI BLM 1995).

I did not select the **No Grazing Alternative #4** because it does not:

(1) meet the Purpose and Need as stated in the 2015 CQFM EA;
(2) conform to the Taylor Grazing Act (1934), the Federal Land Policy and Management Act (1976), and the *Kingman Resource Area Proposed Resource Management Plan*

affecting the administration of grazing allotments are developed, the following provisions apply:

(a) An allotment management plan or other activity plans intended to serve as the functional equivalent of allotment management plans shall be prepared in careful and considered consultation, cooperation, and coordination with affected permittees or lessees, landowners involved, the resource advisory council, any State having lands or responsible for managing resources within the area to be covered by such a plan, and the interested public. The plan shall become effective upon approval by the authorized officer. The plans shall—

(1) Include terms and conditions under §§ 4130.3, 4130.3–1, 4130.3–2 4130.3–3, and subpart 4180 of this part;

(2) Prescribe the livestock grazing practices necessary to meet specific resource objectives;

(3) Specify the limits of flexibility, to be determined and granted on the basis of the operator's demonstrated stewardship, within which the permittee(s) or lessee(s) may adjust operations without prior approval of the authorized officer; and

(4) Provide for monitoring to evaluate the effectiveness of management actions in achieving the specific resource objectives of the plan.

§ 4120.3–1 Conditions for range improvements.

(a) Range improvements shall be installed, used, maintained, and/or modified on the public lands, or removed from these lands, in a manner consistent with multiple-use management.

(b) Prior to installing, using, maintaining, and/or modifying range improvements on the public lands, permittees or lessees shall have entered into a cooperative range improvement agreement with the Bureau of Land Management or must have an approved range improvement permit.

(c) The authorized officer may require a permittee or lessee to maintain and/or modify range improvements on the public lands under § 4130.3–2 of this title.

§ 4120.3–2 Cooperative range improvement agreements.

(a) The Bureau of Land Management may enter into a cooperative range improvement agreement with a person, organization, or other government entity for the installation, use, maintenance, and/or modification of permanent range improvements or rangeland developments to achieve management or resource condition objectives. The cooperative range improvement agreement shall specify how the costs or labor, or both, shall be divided between the United States and cooperator(s).

(b) Subject to valid existing rights, title to permanent range improvements such as fences, wells, and pipelines where authorization is granted after August 21, 1995 shall be in the name of the United States. The authorization for all new permanent water developments such as spring developments, wells, reservoirs, stock tanks, and pipelines shall be through cooperative range improvement agreements. A permittee's or lessee's interest in contributed funds, labor, and materials will be

(d) A requirement that permittees or lessees operating under a grazing permit or lease submit within 15 days after completing their annual grazing use, or as otherwise specified in the permit or lease, the actual use made.
(e) The kinds of indigenous animals authorized to graze under specific terms and conditions;

§ 4130.3-3 Modification of permits or leases.
Following consultation, cooperation, and coordination with the affected lessees or permittees, the State having lands or responsible for managing resources within the area, and the interested public, the authorized officer may modify terms and conditions of the permit or lease when the active grazing use or related management practices are not meeting the land use plan, allotment management plan or other activity plan, or management objectives, or is not in conformance with the provisions of subpart 4180 of this part. To the extent practical, the authorized officer shall provide to affected permittees or lessees, States having lands or responsibility for managing resources within the affected area, and the interested public an opportunity to review, comment, and give input during the preparation of reports that evaluate monitoring and other data that are used as a basis for making decisions to increase or decrease grazing use, or to change the terms and conditions of a permit or lease.

§ 4130.4 (b) permits and leases. Approval of changes in grazing use within the terms and conditions of
Changes in grazing use within the terms and conditions of the permit or lease may be granted by the authorized officer. Permittees and lessees may apply to activate forage in temporary nonuse or conservation use or to place forage in temporary nonuse or conservation use, and may apply for the use of forage that is temporarily available on designated ephemeral or annual ranges.

§ 4130.7 Ownership and identification of livestock.
The authorized officer may require counting and/or additional special marking or tagging of the authorized livestock in order to promote the orderly administration of the public lands.

§ 4180.1 Grazing Administration. Fundamentals of Rangeland Health and Standards and Guidelines for
"The authorized officer shall take appropriate action under subparts 4110, 4120, 4130, and 4160 of this part as soon as practicable but not later than the start of the next grazing year upon determining that existing grazing management needs to be modified to ensure that the following conditions exist.

(a) Watersheds are in, or are making significant progress toward, properly functioning physical condition, including their upland, riparian-wetland, and aquatic components; soil and plant conditions support infiltration, soil moisture storage, and the release of water that are in balance with climate and

of the decision, and to

Departmental Cases Hearings Division
Office of Hearings and Appeals
U.S. Department of the Interior
351 South West Temple, Suite 6.300
Salt Lake City, Utah 84101

Pursuant to 43 CFR 4.471(c), a petition for stay, if filed, must show sufficient justification based on the following standards:
(1) The relative harm to the parties if the stay is granted or denied;
(2) The likelihood of the appellant's success on the merits;
(3) The likelihood of immediate and irreparable harm if the stay is not granted; and,
(4) Whether the public interest favors granting the stay.

43 CFR 4.471(d) provides that the appellant requesting a stay bears the burden of proof to demonstrate that a stay should be granted.

Any person named in the decision from which an appeal is taken (other than the appellant) who wishes to file a response to the petition for a stay may file with the Hearings Division in Salt Lake City, Utah, a motion to intervene in the appeal, together with the response, within 10 days after receiving the petition. Within 15 days after filing the motion to intervene and response, the person must serve copies on the appellant, the Office of the Solicitor and any other person named in the decision (43 CFR 4.472(b)).

At the conclusion of any document that a party must serve, the party or its representative must sign a written statement certifying that service has been or will be made in accordance with the applicable rules and specifying the date and manner of such service (43 CFR 4.422(c)(2)).

As noted above, the petition for stay must be filed in the office of the authorized officer. If you have any questions, feel free to contact me at (928) 505-1300.

Sincerely,

Roxie C. Trost

Roxie Trost
Colorado River District Manager

cc: Interested Public (see Attached List)

Attachments – 15 (Index page and 14 Items)

Attachments from
Cerbat, Quail Springs, and Fort MacEwen
Proposed Grazing Management Plan and Permit Renewal
Environmental Assessment
DOI-BLM-AZ-C010-2015-0029-EA (2015 CQFM EA)

Note:
To avoid confusion,
attachments below are numbered identical
to how they are numbered within the 2015 CQFM EA

Index of Attachments

Figures

1. Figure 3: Map 2. Location of East and West Management units and pasture boundaries within the allotments.
2. Figure 4: Map 3. Existing range improvements.
3. Figure 5: Map 4. Proposed wells, cattleguards, and exclosures in the West Unit.
4. Figure 6: Map 5. Proposed cattleguards, wells, and exclosures in the East Unit.
5. Figure 9: Map 8. Fort MacEwen Allotment proposed improvements.

Tables

6. Years 1 and 2 - Table 5. Grazing system schedule for West Management Unit.
7. Years 3 and 4 - Table 5. Grazing system schedule for West Management Unit.
8. Years 1, 2, and 3 - Table 6. Grazing system schedule for East Management Unit
9. Years 4, 5, and 6 - Table 6. Grazing system schedule for East Management Unit
10. Years 7, 8, and 9 - Table 6. Grazing system schedule for East Management Unit
11. **Within Black Mountain Joint Use Area -** Table 8. Triggers and management actions based on key species utilization, long-term trend data, and ephemeral forage.
12. **Outside of Black Mountain Joint Use Area -** Table 8. Triggers and management actions based on key species utilization, long-term trend data, and ephemeral forage.
13. **All key Areas -** Table 8. Triggers and management actions based on key species utilization, long-term trend data, and ephemeral forage.
14. **Table 9. -** Adaptive Management Precipitation Related Scenarios

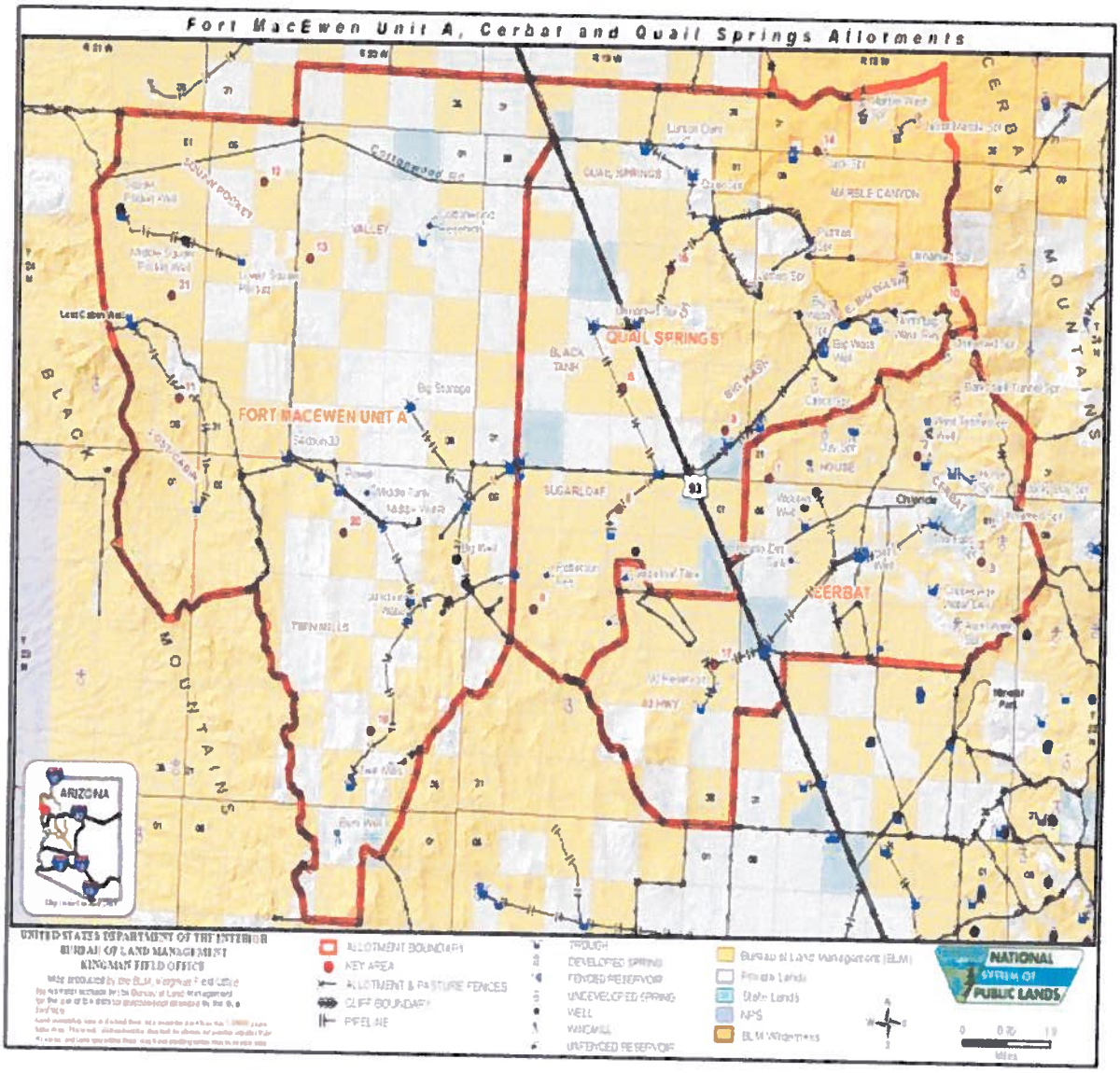

Figure 4: Map 3. Existing range improvements.

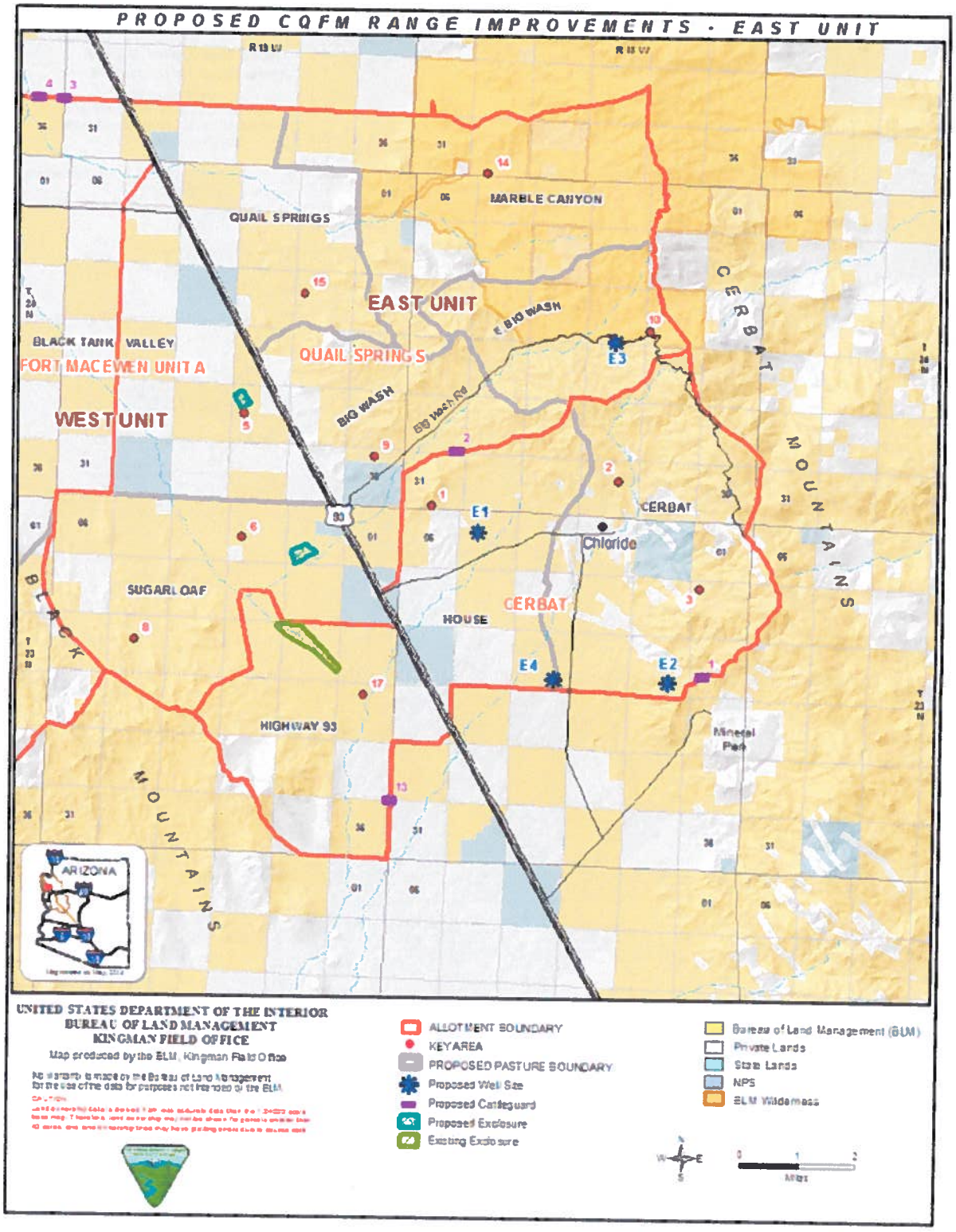

Figure 6: Map 5. Proposed cattleguards, wells, and exclosures in the East Unit.

Table 5. Grazing system schedule for West Management Unit.

YEAR 1	West Management Unit												
Months	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec. 1 wk	Dec . 3 wks	Jan	Feb	Mar	Apr
Pastures													
Black Tank/Valley	Grazed	Grazed	Grazed	Grazed	Grazed	Grazed	Grazed	Grazed	Rest	Rest	Rest	Rest	Rest
Sugarloaf	Grazed	Grazed	Grazed	Grazed	Grazed	Grazed	Grazed	Grazed	Rest	Rest	Rest	Rest	Rest
Squaw P./Lost C.	Rest	Rest	Rest	Rest	Rest	Rest	Rest	Rest	Grazed	Grazed	Grazed	Grazed	Grazed
Hwy 93	Rest	Rest	Rest	Rest	Rest	Rest	Rest	Rest	Grazed	Grazed	Grazed	Grazed	Grazed
Twin Mills	Rest	Rest	Rest	Rest	Rest	Rest	Rest	Grazed	Grazed	Grazed	Grazed	Rest	Rest

YEAR 2	West Management Unit												
Months	May	Jun	Jul	Aug	Sep	Oct	Nov. 2 wks	Nov. 2 wks	Dec	Jan	Feb	Mar	Apr
Pastures													
Black Tank/Valley	Grazed	Grazed	Grazed	Grazed	Grazed	Grazed	Grazed	Rest	Rest	Rest	Rest	Rest	Rest
Sugarloaf	Rest	Rest	Rest	Rest	Rest	Rest	Rest	Grazed	Grazed	Grazed	Grazed	Grazed	Grazed
Squaw P./Lost C.	Rest	Rest	Rest	Rest	Rest	Rest	Rest	Grazed	Grazed	Grazed	Grazed	Grazed	Grazed
Hwy 93	Grazed	Grazed	Grazed	Grazed	Grazed	Grazed	Grazed	Rest	Rest	Rest	Rest	Rest	Rest
Twin Mills	Rest	Rest	Rest	Rest	Rest	Rest	Rest	Rest	Grazed	Grazed	Grazed	Rest	Rest

Table 6. Grazing system schedule for East Management Unit.

YEAR 1 — *East Management Unit*

Pastures	May	Jun	Jul	Aug	Sep	Oct	Nov. 3 wks	Nov. 1 wk	Dec	Jan	Feb	Mar	Move Apr
House	Grazed	Grazed	Grazed	Grazed	Grazed	Grazed	Grazed	Rest	Rest	Rest	Rest	Rest	Rest
Big Wash	Grazed	Grazed	Grazed	Grazed	Grazed	Grazed	Grazed	Rest	Rest	Rest	Rest	Rest	Rest
Quail Springs	Grazed	Grazed	Grazed	Grazed	Grazed	Grazed	Grazed	Rest	Rest	Rest	Rest	Rest	Rest
Cerbat	Rest	Rest	Rest	Rest	Rest	Rest	Rest	Grazed	Grazed	Grazed	Grazed	Grazed	Grazed
East Big Wash	Rest	Rest	Rest	Rest	Rest	Rest	Rest	Grazed	Grazed	Grazed	Grazed	Grazed	Grazed
Marble Canyon	Rest	Rest	Rest	Rest	Rest	Rest	Rest	Grazed	Grazed	Grazed	Grazed	Grazed	Grazed

YEAR 2

Pastures	Move May	Jun	Jul	Aug	Sep	Move Oct. 3wks	Move Oct. 1 wk	Nov	Dec	Jan	Feb	Move Mar	Move Apr
House	Grazed	Grazed	Grazed	Grazed	Grazed	Grazed	Rest	Rest	Rest	Rest	Rest	Rest	Grazed
Big Wash	Grazed	Grazed	Grazed	Grazed	Grazed	Grazed	Rest	Rest	Rest	Rest	Rest	Rest	Grazed
Quail Springs	Grazed	Grazed	Grazed	Grazed	Grazed	Grazed	Rest	Rest	Rest	Rest	Rest	Rest	Grazed
Cerbat	Rest	Rest	Rest	Rest	Rest	Rest	Grazed	Grazed	Grazed	Grazed	Grazed	Grazed	Rest
East Big Wash	Rest	Rest	Rest	Rest	Rest	Rest	Grazed	Grazed	Grazed	Grazed	Grazed	Grazed	Rest
Marble Canyon	Rest	Rest	Rest	Rest	Rest	Rest	Grazed	Grazed	Grazed	Grazed	Grazed	Grazed	Rest

YEAR 3

Pastures	May	Jun	Jul	Move AUG. 3 wk	Move AUG. 1 wk	Sep	Oct	Nov	Dec	Move Jan	Move Feb	Mar	Apr
House	Grazed	Grazed	Grazed	Grazed	Rest	Rest	Rest	Rest	Rest	Rest	Grazed	Grazed	Grazed
Big Wash	Grazed	Grazed	Grazed	Grazed	Rest	Rest	Rest	Rest	Rest	Rest	Grazed	Grazed	Grazed
Quail Springs	Grazed	Grazed	Grazed	Grazed	Rest	Rest	Rest	Rest	Rest	Rest	Grazed	Grazed	Grazed
Cerbat	Rest	Rest	Rest	Rest	Grazed	Grazed	Grazed	Grazed	Grazed	Grazed	Rest	Rest	Rest
East Big Wash	Rest	Rest	Rest	Rest	Grazed	Grazed	Grazed	Grazed	Grazed	Grazed	Rest	Rest	Rest
Marble Canyon	Rest	Rest	Rest	Rest	Grazed	Grazed	Grazed	Grazed	Grazed	Grazed	Rest	Rest	Rest

Table 6. Grazing system schedule for East Management Unit (continued)

YEAR 7 — East Management Unit

Pastures	May (Move)	May	Jul	Aug	Sep (Move)	Oct (Move)	Nov	Dec	Jan	Feb. 3 wk (Move)	Feb. 1 wk (Move)	Mar	Apr
House	Rest	Rest	Rest	Rest	Rest	Grazed	Grazed	Grazed	Grazed	Grazed	Rest	Rest	Rest
Big Wash	Rest	Rest	Rest	Rest	Rest	Grazed	Grazed	Grazed	Grazed	Grazed	Rest	Rest	Rest
Quail Springs	Rest	Rest	Rest	Rest	Rest	Grazed	Grazed	Grazed	Grazed	Grazed	Rest	Rest	Rest
Cerbat	Grazed	Grazed	Grazed	Grazed	Grazed	Rest	Rest	Rest	Rest	Rest	Grazed	Grazed	Grazed
East Big Wash	Grazed	Grazed	Grazed	Grazed	Grazed	Rest	Rest	Rest	Rest	Rest	Grazed	Grazed	Grazed
Marble Canyon	Grazed	Grazed	Grazed	Grazed	Grazed	Rest	Rest	Rest	Rest	Rest	Grazed	Grazed	Grazed

YEAR 8

Pastures	May	Jun	Jul (Move)	Aug (Move)	Sep	Oct	Nov	Dec. 3 wks (Move)	Dec. 1 wk (Move)	Jan	Feb	Mar	Apr
House	Rest	Rest	Rest	Grazed	Grazed	Grazed	Grazed	Grazed	Rest	Rest	Rest	Rest	Rest
Big Wash	Rest	Rest	Rest	Grazed	Grazed	Grazed	Grazed	Grazed	Rest	Rest	Rest	Rest	Rest
Quail Springs	Rest	Rest	Rest	Grazed	Grazed	Grazed	Grazed	Grazed	Rest	Rest	Rest	Rest	Rest
Cerbat	Grazed	Grazed	Grazed	Rest	Rest	Rest	Rest	Rest	Grazed	Grazed	Grazed	Grazed	Grazed
East Big Wash	Grazed	Grazed	Grazed	Rest	Rest	Rest	Rest	Rest	Grazed	Grazed	Grazed	Grazed	Grazed
Marble Canyon	Grazed	Grazed	Grazed	Rest	Rest	Rest	Rest	Rest	Grazed	Grazed	Grazed	Grazed	Grazed

YEAR 9

Pastures	May (Move)	Jun (Move)	Jul	Aug	Sep	Oct	Nov. 3 wks (Move)	Nov. 1 wks (Move)	Dec	Jan	Feb	Mar	Apr (Move)
House	Rest	Grazed	Grazed	Grazed	Grazed	Grazed	Grazed	Rest	Rest	Rest	Rest	Rest	Rest
Big Wash	Rest	Grazed	Grazed	Grazed	Grazed	Grazed	Grazed	Rest	Rest	Rest	Rest	Rest	Rest
Quail Springs	Rest	Grazed	Grazed	Grazed	Grazed	Grazed	Grazed	Rest	Rest	Rest	Rest	Rest	Rest
Cerbat	Grazed	Rest	Rest	Rest	Rest	Rest	Rest	Grazed	Grazed	Grazed	Grazed	Grazed	Grazed
East Big Wash	Grazed	Rest	Rest	Rest	Rest	Rest	Rest	Grazed	Grazed	Grazed	Grazed	Grazed	Grazed
Marble Canyon	Grazed	Rest	Rest	Rest	Rest	Rest	Rest	Grazed	Grazed	Grazed	Grazed	Grazed	Grazed

Table 8. Triggers and management actions based on key species utilization, long-term trend data, and ephemeral forage (continued).

Triggers and Management Actions						
Location	**Monitoring Method**	**Monitoring Frequency**	**Soft Trigger**	**Soft Trigger Management Actions**	**Hard Triggers**	**Hard Trigger Management Actions**
Outside Black Mountain Joint Use Area	Key Species Utilization (Key species are listed in Appendix B for each Key Area) Apparent trend Or any other accepted BLM methodology	As needed to assess soft and hard triggers. Expected to be measured 2x/year or more. Potential monitoring periods: prior to break of plant dormancy, end of spring, end of summer, during and/or at the end of a pasture grazing period. The pasture grazing period is the timeframe when livestock are scheduled to be grazing in a pasture.	>40% utilization during a pasture grazing period. Reaching the soft trigger will prompt immediate discussion regarding range condition and adjustments to the grazing management to avoid exceeding the hard trigger point.	Move livestock to areas showing less utilization within the same pasture by one or more of the following (or other recommended action[s] to avoid exceeding hard trigger): *-Turn off waters (or otherwise restrict access)* *-Remove/redistribute salt* *-Herd cattle* *-Temporary fencing* Adjust numbers Use pattern mapping may be conducted to investigate distribution issues and/or utilization levels.	>50% utilization during a pasture grazing period. >50% utilization during the pasture grazing period for 3 consecutive years, or cattle moved early for 3 consecutive years. <50% utilization for 3 consecutive years.	Move cattle, shorten time within a given pasture, and/or voluntarily adjust numbers for the next grazing period. *Adjust numbers, move cattle, or shorten time within a given pasture. Increase time within a pasture or keep current management without changes, *adjust numbers.

Adjustment in stocking rates based on utilization data: see example below (Scenario 2)

[1]AU days ÷ [^]30.4 = adjusted AUMs for the next grazing period (AUMs that would be expected to not exceed utilization trigger)

[1]AU days = actual days to meet utilization level x number of AUs

[^]30.4 = average number of days per month; calculated as 365 days per year ÷ 12 months per year

Scenario 1

In pasture #1, the plan is to place 75 AUs (cows) in this pasture for 120 days while remaining at or below a 40%* utilization (util.) level.
*However, the utilization level of 40% is reached at day 97.
Calculate adjustment as follows:
Planned AUMs = 120 days x 75 AUs/30.4 = 296 AUMs
Actual AUMs = 97 days x 75 AUs/30.4 = 239 AUMs

% of planned time in pasture #1: actual days used (97) ÷ planned days (120)
= 97/120 = 0.808 or 81%

% of planned AUMs used in pasture #1: actual AUMs used (239) ÷ planned AUMs (296)
= 239/296 = 0.807 or 81%

Reduction in time of 19% = 120 days x 0.19 = 22.8 day reduction
Or Reduction in AUMs of 19% = 296 AUMs x 0.19 = 56.2 AUM reduction

Scenario 2

In pasture #2, the plan is to place 105 AUs in this pasture for 145 days while remaining at or below a 50%* utilization level.
*However, after 145 days the utilization level only reaches 41%.
Calculate adjustment as follows:

Planned utilization (util.) level of 50% = 145 days x 105 AUs ÷ 30.4 = 500.8 AUMs

Actual util. level of 41% = actual util. (41%) ÷ planned util. (50%) = 41 ÷ 50 = 0.82 or 82%

The remaining 9% portion = an increase in AUMs or time of 18%

Increase in AUMs of 18% = 500.8 AUMs x 0.18 = 90 AUM increase in stocking rate
Increase in time of 18% = 145 days x 0.18 = 26 day increase in this pasture

Table 9. Adaptive Management Precipitation Related Scenarios

Table 9. Adaptive Management Precipitation Related Scenarios		
Precipitation/ Vegetation Condition	**Grazing Management Response**	**Additional Considerations**
Normal (Not Drought)	Follow grazing rotation schedule.	Continue to monitor utilization and precipitation/soil moisture.
Above Normal (Not Drought) Abundant Ephemeral Forage	Move cattle to pastures with abundant ephemeral forage until forage begins to cure. Then resume grazing rotation schedule.	Consider movement of cattle to areas with ephemeral forage or leave livestock in current pasture longer to take advantage of additional ephemeral forage. Continue to monitor utilization and precipitation/soil moisture.
Below Normal (*Abnormally Dry to Moderate Drought)	Follow grazing rotation schedule.	Review current allotment specific conditions and outlook. Determine if changes in grazing management are needed including adjusting rotation, adjusting numbers, utilizing temporary water hauls, herding etc. Continue to monitor utilization and precipitation/soil moisture.
Below Normal (*Severe to Exceptional Drought)	Open all gates and spread cattle into all pastures with the exception of pastures at or above their use limits (40% or 50%). Adjust numbers to be in balance with available forage.	Review current allotment specific conditions and outlook. Determine if additional changes in grazing management are needed including adjusting numbers and rotation, utilizing temporary water hauls, etc. Determine when livestock would be returned to the rotation and how management should proceed after the drought breaks. Continue to monitor utilization and precipitation/soil moisture. Adjust numbers to be in balance with available forage. Continue with plan including grazing schedule and monitoring. Monitor post-drought to determine plant community condition and the need for additional rest. Consider implementing Howery(1999) management options.